

## Factors that influence MSc (Med) (Pharmacy) completion rates at the Medunsa Campus of the University of Limpopo, South Africa

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**Background.** Postgraduate degrees are costly for the candidate, Government and tertiary institution. Few Master's degree candidates complete their studies within the minimum prescribed time, while some do not finish at all. These two factors impact negatively on student finances and morale, staff workload, university funding and future student intake.

**Objective.** This study was conducted at the Department of Pharmacy, University of Limpopo, Medunsa Campus, Pretoria, South Africa, to establish the completion rates of Master's degrees in pharmacy and identify the factors impacting on completion.

**Method.** A cohort of 100 students who enrolled in the MSc (Med) (Pharmacy) degree between 2002 and 2009 was surveyed by means of an emailed questionnaire that was returned anonymously.

**Results.** Women were more likely to complete their degree than men (53% v. 40%). Full-time students had the highest completion rate (100%), followed by staff (78%). Only 35.5% of part-time postgraduates and those who communicated more frequently with their supervisors received their degree. Those who completed their degree also scored higher on quality of communication with and accessibility of the supervisor. Those who did not complete their degree, scored low on their adjustment to tertiary education and ability to reach a balance between social and academic activities. Finance was also a contributing factor for 40% of those who did not complete their degree.

**Conclusion.** Completion rates in our degree course compare reasonably well with those in other studies. Clarity about the roles and responsibilities of supervisors and students is of the utmost importance. Being mostly present at the university plays a major role in the successful completion of a postgraduate degree. Academic internship is the optimal route to a Master's degree in pharmacy, but if not possible close contact must be maintained between the student and university.

AJHPE 2014;6(2):129-132. DOI:10.7196/AJHPE.367



Postgraduate studies are necessary to fast-track human capital development and are within the broader national goals of higher education.<sup>[1]</sup> There is concern about prolonged completion times and low completion rates for postgraduate research students locally and internationally.<sup>[1,2]</sup>

Students should obtain their degree within a prescribed period.<sup>[1-3]</sup>

Postgraduate degrees are costly for the candidate, Government and tertiary institution. Few Master's degree candidates in South Africa (SA) complete their studies within the minimum time,<sup>[1]</sup> while some do not finish at all.<sup>[4]</sup> In SA there is a shortage of qualified postgraduates<sup>[5]</sup> and slow or non-completion impacts negatively on student finances and morale, staff workload, university funding and future student intake. Monitoring of success rates is therefore a critical requirement for any proposed improvement in postgraduate output.

A Master's degree in pharmacy is offered at the Department of Pharmacy, University of Limpopo, Medunsa Campus, Pretoria, SA (henceforth referred to as the Department). While the degree originally comprised research only, it may now be obtained by a combination of coursework and a minor dissertation. Registration is for a minimum period of one year full-time or two years part-time. Most students choose the coursework and research option, but few accomplish it in two years. In the past decade, academic internships have been introduced in the Department, during which time students are expected to complete their degree over two years on a full-

time basis, in tandem with the SA Pharmacy Council academic internship programme.<sup>[6]</sup>

The objective of this study, conducted in the Department, was to establish completion rates with regard to postgraduate pharmacy candidates and identify factors affecting this goal.

### Method

A cohort of 100 students who enrolled in the MSc (Med) (Pharmacy) degree between 2002 and 2009 was surveyed. This time frame was intended to allow for the completion of studies (even if delayed) and more accurate recall.

The data collection instruments (questionnaire and database summary) were reviewed for content validity by the postgraduate administrative officer in the Department and the study supervisor. The questionnaire was pilot-tested by administering it to three departmental staff members with postgraduate degrees from another department.

The questionnaire covered the following areas:

- demographic data
- type of postgraduate degree and completion details (time taken, graduated or not)
- motivation for studying
- student/supervisor interaction (statements assessed on a Likert scale)
- social and economic variables (assessed on a Likert scale)

- stress management (assessed on a Likert scale)
- logistics of the research (assessed on a Likert scale).

Permission was requested from the Department and the University to gather student information from the hard-copy archives and electronic database. The research proposal was submitted to the School of Health Care Sciences Research Ethics Committee and approved by the Medunsa Campus Research and Ethics Committee.

Students were contacted via email and telephonically using details in the database. The South African Pharmacy Council was approached for recent contact details if the departmental records were not up to date. Social networks were also used to trace past students.

A consent form, together with the questionnaire, was sent to the students. The questionnaire had no identifiers, and respondents could reply anonymously by fax or using a non-personalised email address. Many students opted to respond from their listed addresses, which simplified the follow-up of non-respondents. Several reminder emails were sent after one week. Non-respondents were contacted telephonically two weeks after questionnaire distribution. Returned questionnaires were numbered and not linked to the return email addresses, i.e. these could not be associated with individual students.

## Results

### Completion details of target group

Sixty per cent of the target group of students ( $N=100$ ) and 53% (32/60) of those who completed the degree were female. Of the males, only 40% (16/40) completed their degree (Table 1).

### Occupation category at university

The questionnaire was sent to 24 full-time postgraduate students (14 staff and 10 academic interns) in the group ( $N=100$ ). The overall completion rate was 48%. It was highest for academic interns (90%, with the 10th intern still enrolled for the degree at the time of the study), followed by staff (78.6%). Only 35.5% of part-time postgraduates completed the degree (Table 2).

### Time to complete

While the pharmacy academic internship is spread over a minimum of two years, the postgraduate candidates took an average of 2.4 years to complete their degree and all ultimately finished. Academic staff took an average of 3.2 years and other

part-time students averaged 6.1 years, including interruption of study (registration for more than 4 years is no longer routinely possible according to university rules). The completion time for part-time candidates is a matter of concern.

### Questionnaire responses

Of the postgraduates surveyed ( $N=100$ ), 44 responded, 45 did not respond and 11 were not contactable. Of the 44 respondents, 29 had completed the degree and 15 had not.

### Gender distribution of respondents

Fig. 1 shows the completion rate by gender. Sixty per cent of the target group and 57% of the respondents were female, indicating that the respondents were representative of the target group in terms of gender. Fifty-three per cent of females and 40% of males in the target group completed their degree. Of the questionnaire respondents, 81% of females and 43% of males finished their degree. Hence, when comparing the

completion rates of the target group with those of the respondents, there was a slight selection bias in terms of those who had completed the degree.

### Research topic, workload and communication between supervisor and student

The students in each group (degree completed/not completed) who agreed or strongly agreed with the statements related to choice of topic, workload and communication with supervisor are presented in Table 3.

In all instances, students who had completed their degree gave more positive responses than those who had not. Accessibility of the supervisor, and frequency and quality of communication between student and supervisor, appeared to play a role in completion of the degree.

### Support systems and socioeconomic factors

From Tables 4 and 5 it can be seen that good time management with regard to adjustment to studying and achieving a balance between social

**Table 1. Target group: Degree completion by gender**

	Females (60%)	Males (40%)	Total (100%)
Degree completed, <i>n</i>	32	16	48
Degree not completed, <i>n</i>	28	24	52

**Table 2. Degree completion rate by occupation**

Occupation, <i>n</i>	Completed	
	<i>n</i>	%
Staff (14)	11	78.6
Academic intern (10)*	9	90.0
Neither of the abovementioned occupations (76)	27	35.5

\*Tenth intern still enrolled at time of study, but subsequently graduated.

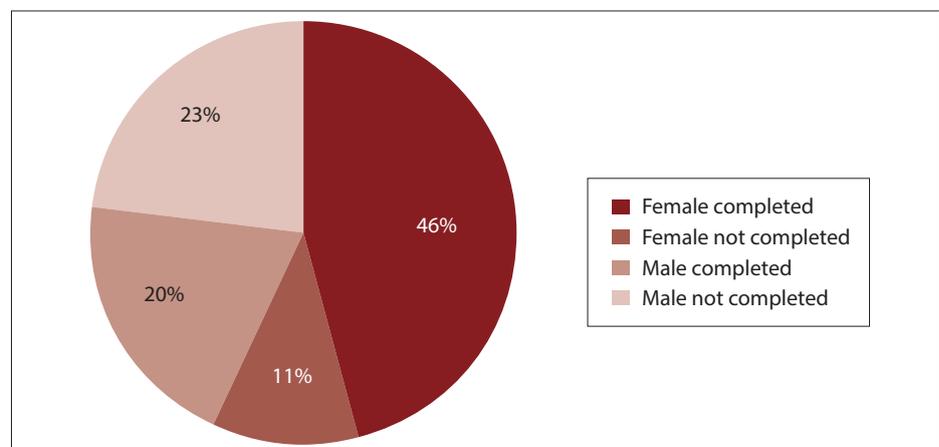


Fig. 1. MSc (Med) (Pharmacy) degree completion of respondents by gender ( $N=44$ ).

and academic activities appear to play a major role in successful degree completion.

There was no difference in the percentage of students who were breadwinners, those who completed their degree and those who did not. However, financial constraints played a role in non-completion of the degree.

## Discussion

The findings of this study confirm much of the work done elsewhere in the world. Postgraduate degree completion times for MSc part-time students in the UK and Australia are on average about 7 years.<sup>[2]</sup> The completion rates in our Master's degree course (48% overall) are slightly lower than those reported in developed countries.<sup>[7]</sup> Cobb<sup>[7]</sup> reported that postgraduate completion rates were 56% in the USA, 65% in Australia and 72% in the UK.

Our study results indicate that time management and motivation are

critical, as the extent to which postgraduate students take ownership of their research will ultimately determine success.<sup>[8]</sup>

An earlier Australian study among education students<sup>[2]</sup> found that only 31% of Master's degree students who commenced a course in 1992 had completed it by 1999. The study also observed that completion rates were generally higher for full-time than part-time students. Completion rates vary,<sup>[1]</sup> being higher for veterinary and other sciences and lower for the arts, social sciences and legal studies. The Australian and our study found that women are more likely to complete a Master's degree course than men.<sup>[5]</sup>

University-specific factors, such as province, history, endowment levels, population served, subjects offered, staff experience and possibly ethos,<sup>[1]</sup> explain a significant proportion of the variation in completion rates. In SA the average completion time for MSc graduates in the health sciences, according to the Council on Higher Education, is approximately three years

**Table 3. Choice of research topic, workload and communication between student and supervisor (N=44)**

Question	Degree completed (n=29) (students who answered the question in the affirmative, %)	Degree not completed (n=15) (students who answered the question in the affirmative, %)
Student chose own topic	100.00	66.7
Student comfortable with topic	100.00	90.0
Academic workload heavier than expected	58.6	46.7
Handling of workload manageable	37.9	27.7
Experienced a loss of academic interest	48.3	46.7
Accessibility of supervisor: very accessible/accessible	86.2	40.0
Communication interval, supervisor to student: weekly/monthly	55.1	20.0
Communication interval, student to supervisor: weekly/monthly	51.7	26.7
Supervisor's knowledge: very high/high	82.7	46.7
Quality of interaction between student and supervisor: excellent/good	79.3	53.3
Contribution of supervisor towards making the project easy or difficult: always/sometimes	75.9	33.3

**Table 4. Adjustment to studying, home support and social/academic balance (N=44)**

Question	Degree completed (n=29) (students who answered the question in the affirmative, %)	Degree not completed (n=15) (students who answered the question in the affirmative, %)
Adjustment to study: excellent/good	82.8	40.0
Support from home: excellent/good	86.2	60.0
Balance between social and academic activities: excellent/good	86.2	40.0

**Table 5. Socioeconomic factors that may affect degree completion (N=44)**

Question	Degree completed (n=29) (students who answered the question in the affirmative, %)	Degree not completed (n=15) (students who answered the question in the affirmative, %)
Breadwinner in family	37.9	40.0
Funded by sponsor or in receipt of grant	55.2	33.3
Piling up of social responsibility during study	44.8	60.0
Study negatively affected by financial status	6.9	40.0

across all fields,<sup>[1]</sup> but only 10% of Master's students at the University of the Western Cape completed their dissertation in three years.<sup>[9]</sup>

Clarity about the roles and responsibilities of supervisors and students is of the utmost importance. Data about students' perceptions offer crucial information about their expectations and to what extent these expectations can be met.<sup>[5]</sup> Students must be adequately prepared in terms of what to expect in postgraduate study.

The Department has made the following interventions in the MSc (Med) (Pharmacy) degree over the past few years:

- An interview, a writing skills test and critical appraisal of a publication as part of the selection process, which helps to assess student potential and motivation prior to selection.
- Extension of the coursework over two years instead of one year, and selection of a research project early in the first year. This intervention means that students spend more time in the Department, which supports them in the research process.
- There are regular, bi-monthly progress meetings between the Head of the Department and supervisors to report on students' achievement of 'milestones'. In this way students who lag behind can be assisted.

From our results it is clear that the regular 'presence' of the postgraduate student in the university environment plays a major role in successful postgraduate degree completion.<sup>[5]</sup> Based on our findings, an academic internship is the optimal route to obtain a Master's degree in pharmacy. It is

therefore regrettable and ironic that the Medical Research Council (MRC) has recently opted to discontinue the Allied Health Internship Grant on which many of our Master's degree interns relied. Since 2014, the MRC has diverted the funds to PhD grants. However, in the SA context, how can students expect to progress to a PhD level if they do not first complete a Master's degree?

**Acknowledgements.** We thank Nikki Williamson for her help with the data provision, and Zakhele Dlamini, Bongani Mbena and Wesley Phiri for their help with the data collection.

## References

1. Council on Higher Education. Higher Education Monitor: Postgraduate Studies in South Africa. Pretoria: Council on Higher Education, 2009.
2. Martin YM, Maclachlan M, Karmel T. Postgraduate Completion Rates, Occasional Paper Series, Higher Education Division. Australia: Department of Education, Training and Youth Affairs, 1999. <http://catalogue.nla.gov.au/Record/55664> (accessed 15 July 2013).
3. Lessing AC, Schulze S. Postgraduate supervision and academic support: Student's perceptions, University of South Africa. *South African Journal of Higher Education* 2002;16(2):139-149. <http://uir.unisa.ac.za/bit> (accessed 15 March 2012).
4. Essa I. Possible contributors to students' non-completion of the postgraduate nursing diploma at Stellenbosch University. Research report. Stellenbosch: Stellenbosch University, 2010. [http://www.scholar.sun.ac.za/bitstream/handle/10019.1/.../essa\\_possible\\_2010.pdf?](http://www.scholar.sun.ac.za/bitstream/handle/10019.1/.../essa_possible_2010.pdf?) (accessed 27 March 2012).
5. Wingfield B. Can we improve postgraduate degree throughput rates? *South African Journal of Science* 2011;107:11-12. [<http://dx.doi.org/10.4102/sajs.v107i11/12.967>]
6. South African Pharmacy Council (SAPC). Intern and Tutor Manual for the Pre-registration Experience of Pharmacist Interns. Pretoria: SAPC.
7. Cobb F. *Factors Affecting Postgraduate Research Student Completion Rates: Literature Review and Reflections for Research*. London: University of East London, UK, 2007.
8. Burns N, Grove SK. *Understanding Nursing Research*. 3rd ed. Philadelphia, PA: Saunders, 2003.
9. Sayed Y, Kruss G, Badat S. Students' experience of postgraduate supervision at the University of the Western Cape. *Journal for Further and Higher Education* 1998;22(3):275-285. [<http://dx.doi.org/10.1080%2F0309877980220303>]